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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Richard T. Dean, et al.  
SERIAL NO.: 08/236,402 EXAMINER: A. Davenport  
FILING DATE: May 2, 1994 GROUP: 1811  
TITLE: TECHNETIUM-99m LABELED IMAGING AGENTS

#18  
Ref. re:  
Interf.

Box AF  
Assistant Commissioner of Patents  
Washington, D.C.

Sir:

**REQUEST FOR INTERFERENCE PURSUANT TO 37 C.F.R. 1.607**

The Examiner's attention is directed to new claims 25 through 33, which correspond substantially to claims 1-6, 8-11, 14-16, and 19-21 of U.S.Pat.No. 5,670,133 issued September 23, 1997 to Paul O. Zamora, assignor to Rhomed Incorporated of Albuquerque, New Mexico.

In compliance with 37 C.F.R. sec. 1.607, the following count is proposed:

**PROPOSED COUNT**

A peptide reagent comprising:

a first peptide that localizes at a target site in a mammalian body; and  
a second peptide that binds technetium-99m and has a formula selected from the group consisting of Gly-Gly-Cys, Gly-Gly-Pen, Gly-Gly-Gly-Cys, Gly-Gly-Gly-Pen, and D-stereoisomers thereof,

wherein the first peptide is covalently linked to the second peptide.

Present claim 3 and claims 1-6, 8-11, 14-16, and 19-21 of U.S.Pat.No. 5,670,133 would correspond substantially to this single count. Present claims 25-33 correspond to the count.

Claim 3 of the present application recites a reagent for preparing a scintigraphic imaging agent comprising a specific binding compound covalently linked to a radiolabel complexing moiety selected from the group consisting of Gly-Gly-Cys and Cys-Gly-Gly. Insofar as the specific binding compound of claim 3 is a peptide and the radiolabel complexing moiety is Gly-Gly-Cys, claim 3 corresponds substantially to the proposed count. Each of the other claims designated as corresponding to the count recites a peptide reagent comprising a first peptide that localizes at a target site in a mammalian body (the biological function domain of U.S.Pat.No. 5,670,133) covalently linked to a second peptide (the metal ion-binding domain of U.S.Pat.No. 5,670,133) that binds technetium-99m and has a formula selected from the group consisting of Gly-Gly-Cys, Gly-Gly-Pen, Gly-Gly-Gly-Cys, and Gly-Gly-Gly-Pen.

The remaining claims of the present application are directed to the genus of which the count is a species. The remaining claims of U.S.Pat.No. 5,670,133 are directed to peptide reagents further comprising an ionic form of the radioactive metal ion rhenium.

The present application claims priority to USSN 07/807,062, filed November 27, 1991. Support for present claims 3 and 25 appears in USSN 07/807,062 at page 6, lines 2-18 and lines 24-27, in Examples 1 and 2; in Table I at page 12, and in claims 1, 2, 13, 14, 15, and 16 as filed. In the formula appearing at page 6, lines 8-14 of USSN

07/807,062, when A is HOOC, B is NH<sub>2</sub>, R and R' are H, n = 1, and X is SH, the thiol moiety of the radioisotope complexing group is cysteine, and when A is HOOC, B is NH<sub>2</sub>, R and R' are CH<sub>3</sub>, n = 1, and X is SH, the thiol moiety of the radioisotope complexing group is penicillamine. A Gly-Gly-Cys radioisotope complexing moiety is disclosed in Table I, as part of the GRDGGGC peptide. Support for present claim 26 appears in USSN 07/807,062 at page 6, lines 19-20 and lines 24-27; at page 7, lines 10-29; at page 8, lines 18-21; in Example 2; in Table I; and in claims 3, 4, 5, 6, and 7 as filed. Support for present claims 27, 28 and 29 appears in USSN 07/807,062 at page 6, lines 19-20; at page 7, lines 10-29; in Example 2; in Table 1; and in claims 10 and 11 as filed. Support for present claims 30 and 31 appears in USSN 07/807,062 at page 7, line 30 to page 8, line 5; in Example 1; and in claims 5, 6, 8, 10, and 11 as filed. Support for present claims 32 and 33 appears in USSN 07/807,062 at page 6, lines 20-21; at page 8, line 22 to page 9, line 10; and in claim 12 as filed.

In the present application, support for claims 3 and 25 appears at page 7, lines 23-29; at page 8, lines 10-21; at page 9, lines 1-14; at page 11, lines 11-19; at page 12, lines 3-14, 21-25, and 27-28; page 13, line 25 to page 14, line 11; in Table I; in Table IV; and in claims 1, 2, 3, 4, 5, 6, 18, and 19 as filed. Support for claim 26 appears in the present application at page 7, lines 22-29; at page 8, lines 10-21; at page 9, lines 1-14; at page 9, line 25 to page 10, line 1; at page 11, lines 2-19; at page 12, lines 3-14, 21-25, and 27-28; page 13, line 25 to page 14, line 26; in Examples 1, 2, 4, 5, 6, and 8; in Table I; in Table IV; in Figure 4; and in claims 7, 8, 11, 12, 13, and 22 as filed. Support for claims 27, 28

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and 29 appears in the present application at page 9, line 26 to page 10, line 1; at page 14, lines 12-26; in Example 2; in Table 1; and in claims 11, 12, 15 and 16 as filed. Support for claims 30 and 31 appears in the present application at page 9, lines 26-29; at page 14, lines 12-19; in Example 1; and in claims 11, 12, 15, and 16 as filed. Support for claims 32 and 33 appears in the present application at page 10, lines 10-14; at page 15, lines 15-29; in Examples 4, 5, 6, and 8; in Figure 4; and in claims 17, 20, and 21 as filed.

Accordingly, Applicants are entitled to an effective date of November 27, 1991, approximately three months prior to the earliest claimed date of U.S.Pat.No. 5,670,133.

Respectfully submitted,

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